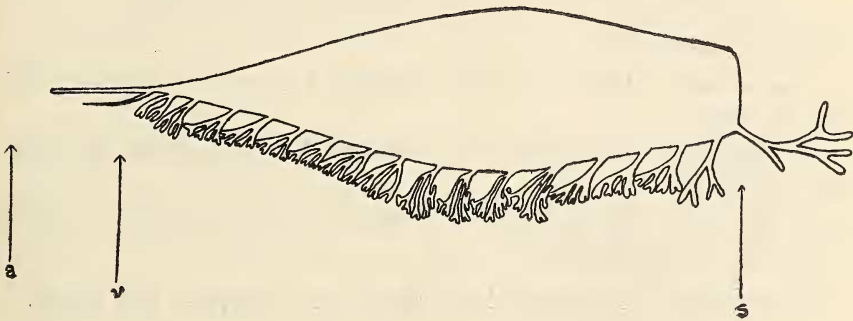


14. A GENERIC ASSESSMENT OF *CORVINA SEMILUCTUOSA* CUVIER, 1830 (PISCES : SCIAENIDAE)

(With a text-figure)

*Corvina semiluctuosa* was originally described under the genus *Corvina* by Cuvier (1830) followed by Günther (1860). Kner (1865) included the species under *Johnius* Bloch and this nomenclatural combination was recognised by all subsequent workers (Bleeker 1874 ; Fowler 1933 ; Weber & de Beaufort 1936 ; Misra 1959 ; and Chu, Lo & Wu 1963). Day (1876), however, considered *Johnius* Bloch as a subgenus of *Sciaena* Linnaeus and hence treated *semiluctuosa* under the genus *Sciaena* in the group *Johnius*. The assignment of *semiluctuosa* Cuvier to any of these genera is considered inappropriate since the species has a carrot-shaped Otolithine gas-bladder (text-figure) with 15 pairs of arborescent tubular appendages, the anterior appendages branching in the head under the skull, surrounded by the soft tissue of the head-kidney and various ligaments, blood vessels and muscles.



TEXT-FIG.—1. Gas-bladder of *Nibea semiluctuosa* (Cuvier) in ventral view (diagrammatic) ; appendages shown on one side only.

- a. position of septum transversum.
- b. position of vent.
- c. position of second anal spine.

Recent workers (Trewavas 1962, 1964 ; Chu, Lo & Wu 1963 ; Sinha & Rao 1969) have emphasised the taxonomic value of the gas-bladder structure in the generic groupings and nomenclature of the Sciaenidae. This discovery of a basis for the generic classification of the Sciaenidae has completely reoriented the classification when the gas-bladder structure was ignored in favour of tropic adaptations which have proved to be only due to convergence. The species is, therefore, much more nearly related to *Nibea mitsukurii* (Jordan & Snyder), the type species of *Nibea*

Jordan & Thompson, 1911, than to the species associated with it under *Johnius*.

*Corvina* Cuvier has the same type-species as *Sciaena* Linnaeus, *Sciaena umbra* Linnaeus which has a gas-bladder without appendages ; and *Johnius carutta* Bloch, the type of *Johnius*, has a hammer-shaped Otolithine gas-bladder. '*Corvina*' *semiluctuosa* Cuvier has no hammer-shaped expansion of the front of the gas-bladder and this, the mandibular pores and strong second anal spine place it in *Nibea*.

***Nibea semiluctuosa* (Cuvier, 1830) comb. nov.**

*Corvina semiluctuosa* Cuvier, 1830, *Hist. nat. Poiss.*, 5 : 106 (Malabar, Goa & Pondicherry).

*Corvina semiluctuosa* Günther, 1860, *Cat. Fish. Brit. Mus.* 2 : 304 ; Day, 1865, *Fish Malabar* : 53.

*Johnius semiluctuosa* Kner, 1865, *Reise Novara Fische* : 124 ; Bleeker, 1874, *Verh. Akad. Wet.*, 14 : 54.

*Sciaena semiluctuosa* Day, 1876, *Fish. India* : 191 ; Day, 1889, *Fauna Brit. India. Fish.* 2 : 121.

*Johnius semiluctuosa* Fowler, 1933, *Bull. U.S. Nat. Mus.* (100) 12 : 404 ; Weber & de Beaufort, 1936, *Fishes Indo-Australian Archipelago* 7 : 535 ; Misra, 1959, *Rec. Indian Mus.* 59 : 271 ; Chu, Lo and Wu, 1963, *Fish. China* : 22.

*Material Examined :*

3 specimens, 115-295 mm S.L., Bombay, F. Day (ZSI Reg. No. 986, 987 & 1001).

2 specimens, 156-223 mm S.L., Karachi, W. D. Cumming (ZSI Reg. No. F2816/1).

1 specimen, 222 mm S.L., Ratnagiri, G. Ramakrishna, 1.6.1954 (ZSI Reg. No. F6159/2).

*Distribution :* India, the East Indies, the Philippines and China.

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## 15. ON THE OCCURRENCE OF JUVENILE MACKEREL *RASTRELLIGER CANAGURTA* (CUVIER) OFF GOA COAST

Goa along with the west coast of India has a flourishing mackerel fishery solely, supported by *Rastrelliger canagurta*. Though the small-sized mackerel have been observed elsewhere yet from the Konkan Coast except for isolated records of small-sized mackerel off Karwar (Pradhan 1956) and off Ratnagiri (George & Annigiri 1960) young mackerel below 10 cm length have not, so far, been reported. I collected juvenile mackerels several times during 1964-69. The details are given in the Table. Peter (1969) has reported the occurrence of larvae from Persian Gulf, Red Sea and Bay of Bengal in Indian Ocean (22° 22'N., 60° 50'E., 16° 37'N., 41° 09'E., 18° 15'N., 87° 48'E.) from deeper waters.

The occurrence of 48-70 mm juveniles at Goa in May 1965, indicates that the spawning must have commenced much earlier than June-September as reported by Devanesan & John (1940), whereas Balakrishnan (1957) observed that breeding of mackerel commenced during March-April. George & Annigiri (1960) considered the occurrence of small sized mackerel in September as a result of spawning a few months earlier. Similar inferences can be drawn from five instances in Goa also, as recorded above. Peter (1969) has recorded occurrence of small larvae of mackerel in the Indian Ocean in October-November. This difference in the time of occurrence of larvae and juvenile in earlier